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AUTHOR Hampson, S. L.
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ABSTRACT

A guide to courseware authoring aids for computer-assisted language instruction (CALIS) gives suggestions for the selection and use of programing options and provides an annotated listing of those options. Introductory sections discuss the use of computer-assisted language teaching, the selection of quality courseware, the types of authoring aids available, and the elements of authored instruction. The latter sections provide detailed, step-by-step instructions for creating an instructional unit with the CALIS author program. A product registry follows, with each entry including the vendor's name, address, and telephone number, the program title, price, a description of the program's features, computer system requirements, and the program's capability to accommodate foreign languages. Software directories and projects are also listed, the programs are indexed by languages and fonts, and a bibliography is provided. (MSE)

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A GUIDE TO COURSEWARE AUTHORING OPTIONS IN ESL/FL INSTRUCTION

S. L. Hampson

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CALL Practice and Methodology

1. *Computers and ESL in Higher Education* by Michael Barlow
2. *A Guide to Courseware Authoring Options in ESL/FL Instruction* by Sandra L. Hampson

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DISCLAIMER: Every effort has been made to make this booklet as accurate as possible. However, there may be errors in the information given. Therefore, this text should only be used as a general guide to the courseware programs available for second language teachers. We encourage you to consult original sources to obtain complete and up-to-date information.

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Preface

The purpose of the information presented in this pamphlet is to acquaint instructors of foreign languages and instructors of English as a Second Language with some of the presently available options in an author-oriented courseware (course software) environment. This study provides not only a discussion of currently favored authoring strategies and software applications, but also a guide to the host of practicable resources and products. The information has been formatted into an author's registry, and is intended, primarily, to assist those who at once have little or no computer programming experience, yet wish to create and incorporate their own software into the language courses they teach. The intent of the author is, therefore, to provide a fundamental overview, rather than a specialist analysis, of courseware choices.

Introduction

Computer-Assisted Instruction in a Language Teaching Environment

Computer-assisted instruction is becoming an increasingly recognized aid to language learning and teaching. Computer literacy and familiarization with computers have unlocked much potential for those in the pursuit of dynamic and varied language instruction.

The computer is not, contrary to popular myth, an instrument intended to replace the language teaching profession. Human personality and natural language have not, at least not yet, been subjected, absolutely, to the relentless and indiscriminate pursuit of machinal duplication. Rather, the purpose of imaginative exploitation of the computer medium in a language acquisition environment should entail a substantial reinforcement of course content, and more importantly, the teacher's goals. The computer, for example, can be especially advantageous in relieving the instructor of the seemingly endless correction of pattern drill exercises. Given the correct computer authoring option, an instructor should be able to generate exercises, tests and sundry other supplementary materials quickly and effectively. These above applications alone should help revitalize classroom instruction and enable the instructor to concentrate pedagogical energies on refining or even re-defining the language teaching atmosphere of extant methodologies, both in the classroom and at the computer. Students who already enjoy using a collage of software programs as part of their foreign language instruction can expect to experience greater confidence and participation in the target language.

More significantly, instructors are encouraged to acknowledge that computer software can propel a significant and positive motivational force behind their students' language acquisition at all levels. The computer workstation also provides *per se* a pleasant, above all patient, and ideally non-intimidating environment, which enhances student concentration and progress. For an instructor to create such an idyllic learning backdrop in a classroom is quite another matter. The student can also relish with a computer a one-to-one relationship; in a traditional language class, most students do not receive individual attention from their instructor. Language teachers will recognize, perhaps more than teachers in other disciplines, that individual instruction can account for dramatic improvement in a target language. In addition to individual attention, practice, a word so highly revered in foreign language acquisition, is perhaps one of the most prominent features a computer program can offer.

There is a ray of hope for the rescue of language teachers. The advent of other technological media, for example, film, television and language laboratories, has proven that the language teacher is far from replaced. New teaching methods become potentially more exciting when supplemented with computer-assisted instruction. The computer will devote as much time to the student as the student requires; are instructors, on the other hand, patient enough to devote enough of their time to consider and exploit the software authoring alternatives before them?

Quality Courseware

Not all programs are, of course, perfect. Indeed, many instructors, upon review of software designs, suspect their qualitative content and pedagogical motives. There are many programmers without foreign language expertise and conversely, many foreign language experts without computer programming proficiency. For both language teacher and programmer alike, nevertheless, there are some important considerations when designing computer software. The following guidelines are proposed as an elementary reference to courseware design; language teachers can ask themselves these and similar questions:

a) How does a program reflect sound pedagogical objectives and target language goals?

b) How can a program successfully adhere to pedagogical motives without undergoing sacrifice to a rigid authoring code or language?

c) How can an author prevent programming obstacles from obscuring original instructional objectives?

d) How comprehensible and coherent are the program/exercise commands and instructions?

e) How easily can a user escape from a program? It is essential to keep frustration (extraneous to the language assignments) at a minimum.

f) How user-friendly, predictable, or non-alienating are the instructions provided within a program?

g) What is the purpose of the program? Testing? Tutoring? Presenting new material? Reinforcement? Vocabulary enrichment? A combination of the above? Once the student has selected a program, is that student aware of and familiar with its objectives?

h) How are answers processed? Predictably? In a non-repetitive way? Accurately and with corrective feedback? Are incorrect responses replaced with correct responses?

i) How should the length of a program be determined? Length of exercises is a prime concern in maintaining concentration, motivation and positive anticipation. Are there tedious repetitions in exercise formats? Students seem to respond most favorably to logically-oriented short, specific and verbally reinforced exercises.

j) How does a program exploit graphic and sound potential? Can a teacher exploit audio/video technology with the software application?

Planning confluent responses to these above concerns itemizes, implicitly, an initial approach to the generating of program or exercise blueprints. These issues have been addressed at length already in many educational institutions and are certainly not exposed for the first time in this guide. There is, however, an important distinction to be drawn between computer program use, in general, and computer program use in foreign language instruction. The above considerations need to include a fundamental principle in language teaching, in contrast to computer programming: the student's linguistic needs are of paramount importance in any program or exercise design. Explicit in the above list is a concern to address, in addition, the needs of language teachers experiencing for the first time the somewhat disconcerting, yet irresistible, compulsion to create their own software.

Courseware Authoring Options

Author Exigencies

Authoring products are designated for those wishing to write their own computer software. An author may or may not choose to write, in addition to the lessons she/he creates, the computer language structure or code necessary to support the lessons.

In order to begin to create courseware, what does a potential author have to know about a computer-oriented instructional environment? Foremost should be an informed awareness of the plethora of currently fashionable authoring choices. Much of the selection involving an authoring tool will depend on how much programming competence an author has, or more appropriately, chooses to have. There are, therefore, varying types of authoring tools created for different types of authors; authoring tools can be explained according to a continuum of computer programming proficiency: the less programming proficiency an author has, the more programming code an authoring tool should provide; conversely, the more programming knowledge an author has, the more access the author has to more complex and sophisticated applications with which the author her/himself writes part or all of the supporting computer code.

Categories of Author Choice

An authoring product must, for those working in foreign language instruction, perform one major task---it must serve the foreign languages with which authors are involved in an adequate and competent way. A competent authoring product is one which has received, during its inception, professional guidance from foreign language experts who can anticipate foreign language problems before they appear in the finished product. For example, when reviewing a product designated for foreign language purposes, it is essential to check the character set to ensure that no diacritical marks or special symbols have been omitted. How easily can a student use accents when concentrating on a lesson? How can a product allow the programming of additional characters or character sets by the author? If a program allows the author to create other character sets, is this a process using a graphics editor or can an author obtain access to extra files which may already contain the preprogrammed symbols desired?

The following categories of authoring product are presented with the continuum (presented earlier) in mind. A brief explanation accompanies each type of authoring option and the categories are differentiated from each other on the basis of required programming knowledge.

Authoring Languages

Authoring products requiring some degree of programming knowledge are generally known as authoring languages. An authoring language is an artificial computer programming language or code with which an author creates a program or a set of language lessons. PILOT is known as one such authoring language, for example. PILOT can be used to create interactive courseware programs, but a knowledge of the computer code is required. PILOT is available for use on most computer systems.

With an authoring language, it is possible to organize, format and present a series of screens which can feature text, question/answer processing, branching, scorekeeping and animated/non-animated graphics. Authoring languages, more than other authoring products, offer greater flexibility in structuring the lay-out, sequencing the modular units, and composing the screens of a potential program.

Language teachers are already familiar with the rigorous discipline involved in controlling the learning of a foreign language. Similarly, an authoring language has its own "grammar," including stringent rules of syntax, and a vocabulary of functional commands. Usually, it is assumed that authors using such bases are equipped with the appropriate (desirable) analytical/programming skills necessary to ensure that the logic of any project undertaken is correct and functional. The more complex the project, of course, the more sophisticated the programming must become. Choosing and using an authoring language can be time-consuming. Assuming no prior knowledge on the part of the author, there are several time-absorbing steps to be taken. First, the programming language must be learned and practiced; subsequently, the time required for structure-charting (structuring a sequential and modular draft of the program); pseudocoding (a universal English language code used to write the logic of the program); coding (writing the actual project in the authoring language); running; debugging (finding the logical errors in a program which prevent its proper execution); and testing, should be taken into consideration before opting for an authoring language. Apple's SuperPILOT (included in the "Product Registry"), is an example of an authoring product in which the original computer code has been converted into an easy-to-use set of commands any non-programmer can feel comfortable with. SuperPILOT is also a product which features a series of in-place or programmable character sets for foreign language instruction, and extensive graphics and sound possibilities.

Because of the difficulties in time-exhaustion when programming, many educators have opted for a team approach to program design. Many successful projects have been completed on this cooperative basis, and much individual time, therefore, has been saved.

Authoring Systems

An authoring system is a software application in which, in contrast to an authoring language, some or all of the computer programming code has been written and is already in place. The characteristic central element of an authoring system is its coded superstructure, sometimes presented in a series of menus, hence the term "menu-driven system." Such a system prompts the author to select an appropriate lesson-creating format from a series of menus. Private Tutor (included in the registry) is one such authoring system; **The Author** and DASHER Authoring System (also included in the registry) serve as further examples.

Authoring systems can be described as partially authored programs, since a team of programmers has already written and formatted the program's logic.

Template or Mini-Authoring Programs

Unlike the above antecedents, a template program is a software application in which the computer code is fully written, and formats for lessons are already installed. The superstructure is even more developed and the program furnishes a series of practice "shells" or "templates" allowing an author to write only the lesson's content. The author has less flexibility, and must work within a given system of often unadjustable lesson frameworks. Although much time can be saved by using such programs, an author is pedagogically straitjacketed. The Linguist and Vocabulary Drill (included in the registry) are examples of such products.

Multilingual Word Processors

Another option, albeit *not* to be understood as an authoring product in the strictest sense, is a multilingual word processor. Multilingual document processors not only provide all of the expected features of a conventional text or word processor, but also character sets for multilingual work. Although such a product does not include lesson "templates" or drill "shells," it can, for example, allow users to work with two languages simultaneously (with screen division), and supply

additional utility items such as dictionaries, thesauruses, and extra-character programming opportunities. Teachers using non-formatted lessons, translation passages, or foreign language composition assignments, for example, could benefit from using a multilingual word processor. The possibilities are infinite for creating non-template lessons and such a processor in linguistics or foreign literature studies can be of particular help.

Author Aboard

Before an author chooses an authoring product, the ultimate key to later success is individual research, prepared well in advance. An authoring product should be thoroughly documented and its supporting team should supply with the product the necessary training for its successful use.

Future Perspectives and Prescriptive Formulae for Courseware Authoring

There is a consensus in courseware authoring reviews that an ideal authoring product should provide more than elementary transactions (simple format lessons) between computer tutor and student. Due to the inherent constraints in state-of-the-art computer systems, many authoring products do not have the capacity to transcend lesson formats based on spurious relationships; true/false and question/answer transactions, for example. Many educators would agree that developers of authoring products, in order to advance the status of such applications, need to reexamine the current spectrum of instructional strategies and methodologies in order to incorporate more complex instructional operations into their course software. The limitations, however, of this claim are based on the complexities involved in the simulation and production of more sophisticated software. Natural language processing, for example, has presented some challenging authoring problems.

The solution to the problem of developing more sophisticated authoring environments, both for foreign language acquisition and learning based on other disciplines, lies in the team approach mentioned earlier.

At Ball State University, Muncie, Indiana, for example, it is exactly the team approach which serves as the impetus behind a project to propose possible answers to the problems mentioned above. The Research Center for Advanced Computing and Education, proposed by a team of educators from different disciplines, directed by Herbert Stahlke of the English Department, has as its mission "addressing the educational role of new and emerging computing technologies" (written in "A Research Center for Advanced Computing and Education: A Proposal," November 6, 1987.) More specifically, and of particular significance in relation to authoring products, the proposed center would have as one of its major areas in CAI (Computer-Assisted Instruction) ICAI or Intelligent Computer Assisted Instruction, an integral area of educational technology. One planned project is developing a large Intelligent Tutoring System (ITS), which would require, as Stahlke describes, "the combined efforts of domain experts, knowledge engineers, graphics and instructional designers and programmers, and cognitive researchers." Combined efforts summoned together on such an extensive scale, do, of course, present their problems. Material problems such as the necessary space, personnel, and expense of such a project could only be tackled by larger research institutions. Another major area of the Center's research is object-oriented authoring, now becoming an increasingly important domain in future authoring directions. "Objects," rather like accessible simulation constructs, offer interesting answers to the time involved in programming simulations for lesson content. Like a set of variables accessible in a computer program, the object fields can be "called" into operation in combination with other object fields. An object may serve as "a free sample" of already written computer code which is completely accessible for lessons in any discipline requiring

that particular object at any given time. Calling the "object" into place is sufficient for it to operate appropriately in the given lesson.

The proposed Research Center's goals present an example of the directions in which advanced educational technology is headed. Many computer tasks performed on an individual basis today will be simply assimilated by larger, more sophisticated intelligence-sharing teams of tomorrow. Cooperative systems will be developed on an exclusively collective basis and individual authoring will move backstage.

Constituent Elements of Authored Instruction

Schematic Representation of a Sample Instructional Unit.

An analysis of the composition of many instructional units created with an authoring product will reveal a universally recognized structure underlying the fundamental logic common to most programmed lessons: the modular unit.

In a sample lesson, information is divided into modular units of information. The unit is a uniform, self-contained, informational task which can be processed by the computer. The information presented in a computer lesson is analogous to the way in which a classroom lesson can be decomposed into its constituent logical elements. The following list summarizes the modular constituency of a sample lesson. Due to the overwhelming variety of products featured in this guide, only the most essential elements are mentioned in this list, without reference to one specific product. Some modular units are optional.

Lesson Structure

The following modules, as integral parts to the lesson whole, can be presented as follows:

Modular Component

1: Initialization and Identification Details
2: Title Page (Screen) of Lesson
3: Personalization and Lesson Objective/s
4: Review/Diagnostic Pretest
5: Content Menu presenting Lesson Elements
6: Instructions
7: Lesson Tasks: 1. Student Explores
8: Lesson Tasks: 2. Student is Questioned
9: Lesson Tasks: 3. Answer Processing
a) correct; b) incorrect responses
10: Branching to Subtutorials (Explanations; Clarifications)
11: Scorekeeping/Student Performance Report
12: Review
13: End/Student Acknowledgment
14: Exit: At predetermined points in any lesson, users should be able to leave a program without being forced to wait for its closure.

Types of Lessons

Before designing modular units, an author must decide which type of instructional method is to be used for information presentation. A lesson contains a body of educational information. According to the individual preference of the author, the same information can be processed in different ways. The following list itemizes sample methods of processing the lesson information; the list is suggestive, not comprehensive. Students may be asked to:

1: Identify or Demonstrate
2: Memorize

3: Define
4: Explain or Elucidate
5: Classify or Categorize
6: Calculate or Analyze
7: Analogize
8: Differentiate
9: Infer
10: Generalize/Specify
11: Summarize
12: Conclude/Predict

Foreign Language Instruction

Teachers of foreign languages are required not only to take all the above tasks into consideration, but also language acquisition-specific tasks; once again, the following list is elementary. Students learning a foreign language are encouraged to use the following learning strategies in conjunction with those skills listed above:

1: Repeat
2: Internalize a structural model by patterned correction
3: List
4: Apply a structural formula
5: Auto-correct

Sample Format

In order to clarify the above generalizations, a sample format for a foreign language lesson is briefly demonstrated using one of the authoring applications taken (randomly) from the product registry.

Lesson Format Demonstrated with CALIS Author Program

For more information about CALIS and CALIS authoring, see the "Product Registry" in this guide (Product Index Code Number: 18).

With CALIS, users may create many types of instructional unit. Traditional question/answer based exercises can be written in addition to more complex transactions. The CALIS **Author** program offers the author opportunities to compose a more sophisticated instructional environment. Cloze exercises, for example, are an important tool in testing foreign language manipulation. The educational methodology behind a simple cloze exercise is strongly supported by the team whose members designed CALIS. A sample cloze exercise has been chosen to demonstrate a CALIS **Author** program exercise format.

Cloze Exercise

The CALIS **Author** program is used in conjunction with a word processor. Three steps are followed in order to create a lesson:

a) the word processor is used to create the lesson text;
b) special characters are added (CALIS statements) for different exercise shells;
c) the **Author** program is run and screen prompts are answered.

For the cloze exercise an English text will be used for exemplification. The same procedure is followed for work in other languages.

After designating CALIS script file names at the DOS prompt, the program is ready to receive commands to create a lesson. (This process is explained in more detail at the beginning of the CALIS *User's Guide*, Duke University, Durham, North Carolina, 1986.)

Procedure

1. The file to be used is called **airport.cal** .
2. The text is typed in thus:

> International airports can be very confusing, especially after a long -----1-----. Before your arrival in the United States, ask a representative from the International Student Service to come and -----2----you. A representative can be there to answer your -----3-----, assist with luggage, and help you find accommodation.

3. The student reading the exercise must find words from the target language to replace the blanks. The words found have to be semantically and grammatically appropriate. The three omitted words are in this case: 1) trip; 2) meet; 3) questions. The student types into the blanks on the screen the appropriate choice. For this particular exercise, a special character, the backslash (\), has to be used when the author types the text into the word processor thus:

> International airports can be very confusing, especially after a long \trip\. Before your arrival in the United States, ask a representative from the International Student Service to come and \meet\ you. A representative can be there to answer your \questions\, assist with luggage, and help you find accommodation.

The words to be deleted by the computer are marked with backslash boundaries. The **Author** program allows, in addition to demarcation of correct responses, indication of contextual clues (parts of the context) on the screen for student prompting. Either words or whole sentences can be used as contextual prompts. Additional options include the specification of additional correct answers ("journey" or "flight" instead of "trip," for example); specification of possible incorrect responses; and cloze exercises with lists of optional words. CALIS provides other features offering alternative exercise formats. Both cloze and scan exercises can be written using additional tailoring modes.

In order to specify additional correct responses, an author must take several additional steps. For one line of text, five supplementary steps must be followed:

1. The original answer is marked with a label;
2. A boundary separates the original answer from additional chosen responses;
3. The label for the blank must be prefixed with a # sign.
4. Additional answers are listed, prefixed by a + sign.
5. Feedback messages are separated from answers by a ; sign.

The text sample will now undergo these five above transformations:

1. Label Addition

> International airports can be very confusing, especially after a long \<ITEM1>trip\. Before your arrival in the (etc.)

A label is a unique name (in this example <ITEM1>) issued to that part of an instruction in the program identifiable only under the given name. A label in CALIS **Author** is always delimited by angle brackets: < >. Labels in other programs are demarcated by other signs.

2. Boundary Addition

A boundary for specifying additional correct/incorrect answers in CALIS is expressed thus:

!!!+-

The **Author** program requires that this statement be written in the first column of the screen and placed after the original text. The original text file has now become:

> International airports can be very confusing, especially after a long \<ITEM1>trip\. Before your arrival in the United States, ask a representative from the International Student Service to come and \meet\ you. A representative can be there to answer your \questions\, assist with luggage, and help you find accommodation.

!!!+-

3. Label Listing

Subsequent to the boundary marker is the label name (ITEM1), this time not demarcated with angle brackets but preceded by a # sign. The # sign indicates a listing of additional correct responses for the label (one of whose functions is to designate space for the storage of correct responses). The label is listed thus:

(text sample, as above)
!!!+-
ITEM1

4. Listing Alternative Correct Responses (for ITEM1)

Alternative responses for the word "trip" include "flight" or "journey." Correct responses are listed under

(text sample)
!!!+-
#ITEM1
+ flight
+ journey

5. Feedback or Answer Processing

It is customary to provide additional advice, praise, or extra prompting for student input. When a student types the correct or incorrect answer, for example, the student may receive one of many well-worn messages:

Correct Response	Incorrect response
Correct.	Incorrect.
This is the right answer.	Please try again.
Excellent.	Sorry, that's not accurate.

This is a possible replacement. This is not an adequate choice.
etc. etc.

In order to signal a feedback message, the correct CALIS statement to use is a semi-colon (;). The semi-colon is placed between the correct response and the feedback message thus:

(text sample)
!!!+-
#ITEM1
+flight ; That is the correct choice.

If, predictably, a feedback message occupies more than two lines, an ampersand is installed to accommodate the spillover into the next line:

!!!+-
#ITEM1
+flight;That is one possible correct answer you can feel good
& about!

For multiple answers and multiple blanks, the same principles are exploited, bearing in mind the correct identification of labels:

!!!+-
#ITEM1
+flight
+journey
#ITEM2
+meet
+get

Demarcation of Incorrect Responses

Should a student type an inappropriate response to replace a particular blank, an author has the option of providing a feedback message to an incorrect answer. With the exception of exchanging the (-) sign for the (+) sign, exactly the same procedure is pursued for the specification of incorrect responses. An example follows of a feedback message to an incorrect response:

(text sample)
!!!+- (boundary)
#ITEM1 (label)
- excursion; This is an inappropriate response. An
&"excursion" is usually a journey of short duration taken for
&pleasure.

In similar fashion, both multiple incorrect answers and incorrect answers for multiple blanks can be expressed as follows:

a) multiple incorrect responses

(text sample)
!!!+-
#ITEM1
-excursion
-voyage

b) incorrect responses for multiple blanks

(text sample)
!!!+-
#ITEM1
-excursion
-voyage
#ITEM2
-see
-visit

The CALIS project as a whole is a sophisticated and complex CAI phenomenon; the lesson demonstrated here merely hints at the extensive capabilities of CALIS authoring. Those interested are strongly advised to see the products themselves on a first hand basis.

Key Definition and Foreign Languages

One of the most prominent considerations for a foreign language teacher is to know how the computer can accommodate either the special diacritical marks or alphabets of a target foreign language. If the above demonstration, for example, were to be written in French, authors may wonder how a particular product can be adjusted accordingly.

The CALIS system can be used for work in many different languages. Below is a sample key definition table illustrating the way in which diacritical marks have been programmed. CALIS has defined standard function keys in the following way for European languages:

F1	Umlauts and special characters
F2	Circumflex accents
F3	Acute accents
F4	Grave accents

(The remaining keys (F5 - F10) are used for other subroutine operations)

If a student wishes to type in French, for example, two steps must be followed:

1) the student types the appropriate letter;
2) the student types the appropriate function key which will automatically produce the desired diacritic.

Even more useful for CALIS users is the constant display of appropriate diacritical marks for the duration of the lesson. The following chart on the next page (taken from the CALIS *User's Guide*, p. 9, Fig. 7), displays the available choices for diacritical marks in many European languages.

Note: For information on special character sets, see the chapter in the CALIS *User's Guide* entitled "CALIS and Special Character Sets," pp. 113-126.

EXAMPLE: CALIS Function Key Definition

To make:	Type:	To make	Type:	To make:	Type:
ä	a [F1]	â	a [F2]	à	a [F4]
Ä	A[F1]	ê	e [F2]	è	e [F4]
ö	o [F1]	î	i [F2]	ì	i F4]
Ö	O[F1]	ô	o [F2]	ò	o [F4]
ü	u [F1]	û	u [F2]	ù	u [F4]
Ü	U[F1]				
ß	s [F1]	á	a [F3]		
ç	c F1]	é	e [F3]		
Ç	C[F1]	É	E[F3		
ñ	n [F1]	í	i [F3]		
Ñ	N[F1]	ó	o [F3]		
¿	? [F1]	ú	u [F3]		
¡	! [F1]				

Selected Product Registry

Key

The following information presents the key to abbreviations used for different types of exercises supported by individual programs in this register of products.

M/C = Multiple Choice
T/F = True/False
F/B = Fill in the Blank
Q/A = Question/Answer

There are certain products in the "Product Registry" whose current status has changed; the applications in this group have either been discontinued, or have been revised and renamed. These products, nevertheless, appear in the listing since they serve as educational rather than functional examples. Cited below according to their "Product Registry Code Number" are the programs in question:

1, 4, 13, 18, 21.

For each product listing, therefore, it is essential that all information be doublechecked.

Some additional programs are listed in Afterword.

Apple Computer, Inc.
20525 Mariani Avenue
Cupertino, CA 95014

Tel: 408 996-1010

Apple SuperPILOT

Price: $280.00 (?)

*Apple SuperPILOT is a version of the PILOT authoring language. SuperPILOT offers twenty-six instructions, nine of which are used to create most lessons. Lessons are created by the author in "Author" mode and run by the student in "Student" mode. An instruction consists of instructional command and its object of execution. Instructions are of several different types: labels, instructional names, modifiers, conditioners and expressions. Instructions can be further combined into complex sequences. Thorough documentation and demonstrative tutorials are standard for the training of inexperienced authors.

SuperPILOT boasts many additional editing features including color graphics, foreign language character sets, sound effects, multiple fonts and type sizes. Record-keeping and interactive audio-visual operations are also possible.

System Requirements:

SuperPILOT shares the system requirements for Apple PILOT. SuperPILOT is an extension of PILOT, whereby the operating system has incorporated more possibilities for the language card, expanding space to a 64K environment.

Requirements for Author System:

48K Apple II or II Plus; 16K language card; two disk drives.

Requirements for Student System:

48K Apple II or Apple II Plus; 16K language card; one disk II drive.

Foreign Language Compatibility :

SuperPILOT offers the author a "Character Set" editor allowing the programming of foreign language keys. Some character sets have been preprogrammed for the following languages: French, German, Greek, Italian, Katakana, Spanish, Swedish.

Product Index Code Number: 1

Applied Data Research
Product Manager
Route 206 and Orchard Road, CN-8
Princeton, NJ 08543-0008

Tel: 201 874-9000, ext. 4028

ADR/ADROIT (Applied Data Research Online Interactive Training)

Price: $5,500 (for simple permanent one-computer development system; license includes unlimited distribution rights; reduced rates for academic establishments.)

*ADR/ADROIT is a software tool for the creation of computer-based instructional materials. With this application, authors can choose to incorporate video/audio technology into their lessons. The system comprises two components: lessons are created in authoring mode and are delivered in presentation mode. In addition, ADR/ADROIT is comfortably suited to authors with moderate programming experience, and eradicates with its formatted screens the endless and tedious repetition of text frames and branching instructions common to many authoring environments.

System Requirements :

IBM. ADROIT is used on a BCD video controller. Function keys operate the graphics editor. ADROIT supports IBM InfoWindows permitting the use of a monitor with "touch" screen windows for interactive video. Foreign language instructors could incorporate "touch" screen vocabulary quizzes into their lessons, for example. Screen capture from mainframe or PC-based programs is possible for extra editing facility.

Foreign Language Compatibility :

Since ADR/ADROIT software supports FONTRIX, users can create foreign language lessons successfully.

Product Index Code Number: 2

Bel Air Software
P.O. BOX 1045
Bel Air, MD 21014

Teaching Assistant
Multi-lingual Language
Teacher

Tel: 310 879-8784
(Contact number has now changed to:
800 232-2224 [Queue Software])

Price: $55.00 (Teaching Assistant)
$240.00 (Multi-lingual Language Teacher)

*Teaching Assistant is an authoring system in template form for the composition of standard courseware exercises.

Types of Exercises: M/C; T/F; F/B.

*Multi-lingual Language Teacher is a foreign language text processor complete with graphics library.

System Requirements :

IBM PC; 128K.

Foreign Language Compatibility :

The Teaching Assistant is available in French or Spanish.

Product Index Code Number: 3

BIPACS Turnkey CAI Centers
1540 Broadway 2nd Floor
New York City, NY 10036

Tel: 212 302-0303

BIPACS-CALL

*BIPACS-CALL (Computer Aided Language Learning) is a series of authoring programs which allow teachers to customize their own lessons. With MY Programs, for example, teachers write their own dialogues or vocabulary which are superimposed on a set of graphics screens. Most of the exercises are situational. Another program in this collection, the Express Trainer Authoring Program, translates source code into computer language. Authors may combine hi-resolution color graphics, digitized human voice, music and written captions to enhance lessons. Feedback comes in different lighthearted forms--animated smiles or frowns, voice, music or written phrase. Instructors can record not only written, but also audio responses. For Express Trainer, there are four additional workshops for twelve people.

System Requirements

The system configuration for this software unit has not been located. More information on this application would be educationally useful.

Foreign Language Compatibility :

These programs can be ordered in English, French or Spanish. Courseware can appear in any language using the Romanized alphabet.

Product Index Code Number: 4

Border Software
1172 3rd Avenue # 3
Chula Vista, CA 92011

Tel: 619 427-5085
800 722-7702

Type-Writer

Price: $69.95

*Type-Writer is a program which converts an Apple computer into a multilingual word processor. This program supports a wide variety of character sets, but is not an authoring application as such.This utility can be used to construct any type of multilingual project.

System Requirements :

Apple II+, IIc, IIe; 64K.

Foreign Language Compatibility :

Documents can be processed in the following languages:

Spanish, French, German, Danish, Finnish, Hungarian, Italian and Hawaiian.

Product Index Code Number: 5

Dr. Allen I. Weinstein
CACI Language Center
1815 North Fort Myer Drive,
Arlington, VA 22209

Tel: 703 276-3970
800 336-6600, ext.3970

VOCAL

*VOCAL is a voice-interactive, computer-assisted, language training system. Language teachers can create with this system interactive lessons in listening comprehension, pronunciation, reading, writing and translation. Menus are simple to use. It is claimed that no more than one hour's training is enough to start authoring lessons. The system is designed for any type of language problem: interpretation in the courtroom; language training; curriculum planning; even industrial translation. With guidance from trained linguists and teachers at the CACI Language Center, those interested can discuss tailor-made projects. An important consideration is the possibility of working not only with the spectrum of more commonly taught languages, but also with uncommonly taught languages such as Konjoval, Tchao or Tchou. The CACI Language Center also offers prime consultation editing, translation and publishing services.

Types of exercises:

Drill and practice in both written and oral training.

System Requirements :

Apple and IBM. System consists of a microcomputer, an Instavox (random access audio disc player from EIS), a microphone, a headset and/or speaker, VOCALWARE (authoring software application), and a VOCAL lesson disk.

Foreign Language Compatibility :

A host of different languages can be used with the system, not only most Romance and Germanic languages, but also uncommonly taught languages. Call for advice about any particular language.

Product Index Code Number: 6

Chambers International Corporation
5499 N. Federal Highway
Suite A
Boca Raton, FL 33487

Tel: 305 997-9444

Color EnBasic

Price: $95.00 (Suggested Retail $175)

*Color EnBasic is an authoring program which provides routines and authoring aids in the creation of class materials. This program not only provides the same features offered by the program BASIC (not listed here), but also pre-written CAI techniques. According to product specifications, these techniques perform advanced procedures such as interactive simulation, answer-judging, and spelling checks. There are seven built-in character sets (including Greek and Cyrillic). Thorough documentation, a sample diskette, a self-directed test-run and appendices enhance the user-friendliness of this product.

System Requirements :

Programs are designed for Apple II+, IIc, IIe; 64k memory,

3.3 DOS.

Foreign Language Compatibility:

Seven built-in character sets are supplied with the program.

Product Index Code Number: 7

Stephen Clausing
408 Thoreau Road
Branford, CT 06405

The Private Tutor System

*The Private Tutor System is a computing facility designed to aid teachers with the construction of exercises based on textbook lessons. The program's goal is to help convert textbook lessons into formatted computer instruction with the help of graphics.

Types of exercises:

Question sequence tutoring; error analysis. Review exercises are activated by the student's own command.

System Requirements:

Macintosh computers.

Foreign Language Compatibility:

The program is for use with any foreign language textbook.

Product Index Code Number: 8

Compress
Marketing Department W
P.O. Box 102
Wentworth, NH 03282

Tel: 603 764-5225

Test Generator
Multiple Choice Tester
Cases 2: Multidiscipline
Problem Solver

Price: Each individual program costs $60.00.

*Test generator is a tool permitting the creation of a data bank of test-type questions.

Types of exercises:

M/C; T/F; F/B; both/neither matches.

Sample Menu:

1. Matching
2. Both/Neither
3. Multiple Choice
4. True/False; Fill Blanks
5. Data Disk Information
6. System Configuration
7. Write Topics
8. Read Topics
9. Error Messages List
0. Quit

---

*Multiple Choice Tester or Pacor permits the instructor to build exams.

Sample Menu:

1. Enter New Questions to Files
2. Replace Specific Questions in QFile
3. Correct Specific Questions in QFile
4. Printout of Questions/Solutions
5. Display Questions on Screen
6. Enter Solution Statements
7. Initialize Diskette/Begin Files

System Requirements:

Programs are designed for Apple II+, IIe, Franklin, Bell and Howell. 48k memory; 3.3DOS; line printer; 2 disk drives (optional with Pacor).

Foreign Language Compatibility:

There is no special accommodation for foreign language character sets, but the product can be used efficiently for generating tests in ESL instruction.

Product Index Code Number: 9

Eastern Language Systems
39 West 300 North
Provo, UT 84601

Tel: 801 377-4558

AlKaatib

Price: $199.00 (AlKaatib)
$99.00 (AlKaatib Laser Font)

*AlKaatib is a fully developed right-to-left Arabic and Persian word processor. The program's specifications include vowelling capacity, ligatures, displayable keyboards, WYSIWYG format, columns and multiple fonts. Most importantly, the program is compatible with Macintosh software via the System Clipboard; therefore, dual language text/graphics database layout is possible.

System Requirements:

The program is designed for Macintosh (SE or II) computers with 512K or more.

Foreign Language Compatibility:

Special accommodation for instruction in Arabic or Persian.Bilingual page layout capacity is an important feature of AlKaatib.

Product Index Code Number: 10

CONDUIT
The University of Iowa
Oakdale Campus
Iowa City, IA 52242

Tel: 319 335-4100

Price: $150.00

DASHER Authoring System

*DASHER Authoring System allows instructors, with only a minimum of working word-processing knowledge, to create their own supplementary exercises. Also available for purchase is DASHER (drills), which is a set of instructional software drills for practicing French, German and Spanish. There are also DASHER programs which provide complementary software for some foreign language texts.

Types of exercises:

Full sentence Q/A format; F/B; synthetic sentences (students construct new sentences based on isolated sentence elements as cues); extended prompt (a repeated part of the student's answer is provided automatically to avoid endless retyping).

Sample menu:

Main Menu from Dasher (DANCER) Authoring System:

A = AUTHOR NEW DRILL (= RETURN)
E = EDIT CHECK TEST
M = MODIFY ITEMS
S = SHOW TEST
F = FILE TO DISK
R = RETRIEVE FILE FROM DISK
D = DISK COMMANDS
T = TEXT ENTRY APPEND
INDEX
SELECT BY LETTER EscEsc=END

System Requirements:

Programs are designed for Apple IIc, IIe, 64K; and IBM PC, DOS 2.10-3.20; 192K; monochrome or color graphics adapter.

Foreign Language Compatibility:

Special accommodation for French, German and Spanish character sets.

Product Index Code Number: 11

Edudisc, Inc.
1400 Tyne Blvd.
Nashville, TN 37215

Tel: 615 373-2506

MacAuthor
Mentor/MacVideo

Price: $195.00
$595.00

*MacAuthor is a program consisting of a series of instructional template formats for exercises in virtually any subject field. Those using foreign languages would have to use fonts with this program.

Types of exercises: M/C; F/B.

*Mentor/MacVideo features a videodisc interface to authoring, an integral instrument for simulations and interactive video activities. In addition, this program combines all the attractions of MacAuthor with an effective video interface.

Special Features:

The audio-visual and videodisc technology of both programs offers automatic connections to video, digitized sound, synthesized voice and graphics functions. Twelve branches are available from one menu screen; nesting functions are encased in the program's logic; both conditional and unconditional branching make answer processing more effective. Noteworthy is the "on the spot" editing option in "author" mode. Both programs not only offer these above operations, but also much more.

System Requirements:

Macintosh 512K with external disk drive; separate NTSC video monitor for Mentor/Macvideo. Recommended for optimal use of these programs are a Macintosh Plus with hard disk, a Macintosh 512Ke, a Macintosh SE and a Macintosh II compatible video and audio digitizers.

Foreign Language Compatibility:

Foreign language fonts can be loaded into these programs. See "The International Fonts" in this register.

Product Index Code Number: 12

Gessler Publishing Co.
Gessler Educational Software
55, West 13th Street
New York, NY 100-11

Tel: 212 627-0099

The Ambassador

Price: $150.00

*The Ambassador is a multilingual document processor. Full range of advanced word processing features. Languages of the menus can be interchanged. This program's interface is similar to that of Macintosh. Simultaneous operation of two languages is possible.

System Requirements:

IBM PC; 256K; supports monochrome, color and Hercules graphics cards.

Foreign Language Compatibility:

Word processing modes available for English (ESL), French, German, Spanish and Hungarian.

Product Index Code Number: 13

Gessler Publishing Co.
Gessler Educational Software
55, West 13th Street
New York, NY 100-11

Gutenberg

Tel: 212 627-0099

Price: $99.00 (ImageWriter and Epson Versions)

*Gutenberg is a text processor containing preprogrammmed formats for newsletters, papers and labels in a variety of foreign languages. Text editing functions include word wrap, search/replace, and insert/delete characters or words. There are 115 additional auto-programmable characters. Excellent print quality draws many users to Gutenberg.

There is an additional application which can be used with Gutenberg, the Foreign Language Teachers Application Disk (FLTAD). This program supplies sample formats for exercises, quizzes, or newsletters.

System Requirements:

Versions of Gutenberg available for ImageWriter and Epson. FLTAD must be used with Gutenberg on an Apple II+, IIe or IIc.

Foreign Language Compatibility:

For French, German, Spanish and 10 other languages.

Product Index Code Number: 14

Gessler Publishing Co.
Gessler Educational Software
55, West 13th Street
New York, NY 100-11

Tel: 212 627-0099

The Linguist

Price: $44.95

*The Linguist is a template program for drills in a number of languages (specified below). Two languages are selected, and words, phrases and definitions can be translated. Scorekeeping is optional.

Sample Menu:

RIGHT WRONG
ENGLISH:
The Cottage
FRENCH:
La Chaumiere.

RIGHT Press Return

System Requirements:

Apple II, II+, IIe, IIc; Commodore 64; Atari (not ST); 64K.

IBM PC, JR; 256K.

Foreign Language Compatibility:

For French, German, Spanish, Russian, Hebrew, Japanese and 13 other languages.

Product Index Code Number: 15

Gessler Publishing Co.
Gessler Educational Software
55, West 13th Street
New York, NY 100-11

Tel: 212 627-0099

Passport

Price: $175.00

*Passport was the Winner of the Showcase Award 1986 Consumer Electronics Show. Passport is an authoring program enabling the creation of software with hi-resolution graphics and color text. Passport features everything that FLCC (Foreign Language Courseware Creator, listed in this registry) offers, only for more languages. See below for language specifications.

System Requirements:

Apple II, II+, IIc, IIe; 64K. 2 disk drives.

Foreign Language Compatibility:

Accents provided for French, German, Spanish, Russian, Hebrew, Japanese and 13 other languages.

Product Index Code Number: 16

Gessler Publishing Co.
Gessler Educational Software
55, West 13th Street
New York, NY 100-11

Tel: 212 627-0099

Prompt

Price: $125.00

*Prompt permits the creation of exercises for ESL, French, Spanish, German, Italian and Latin courses. A task-oriented passage is first written, then followed by a question/answer format. Prompt affords help and dictionary routines.

Types of exercises:

M/C (additional comments may be added to the questions); F/B allowing cloze exercises (cues may be added); spelling check. Two alternate responses will be accepted for each blank.

System Requirements:

IBM PC; 256K.

Foreign Language Compatibility:

Accents provided for French, German, Spanish, Italian, and Latin. Also suitable for ESL classes.

Product Index Code Number: 17

Gessler Publishing Co.
Gessler Educational Software
55, West 13th Street
New York, NY 100-11

Tel: 212 627-0099

Questionmaster

Price: $69.00

*Questionmaster is a program for constructing standard courseware exercises. Instructors can provide useful feedback and anticipate errors. Errors are treated element by element. A spelling check is also provided, and the program will very usefully accept alternate answers.

Types of exercises:

M/C; F/B; Q/A dialogue; translation exercises.

System Requirements:

Apple II, II+, IIc, IIe; 64K. 2 disk drives.

Foreign Language Compatibility:

Accents provided for French, German and Spanish.

Product Index Code Number: 18

Interactive Learning Systems
140 University Avenue, Suite 134
Palo Alto, CA 94301

CALIS (Computer Assisted Language Instruction System) Version 2.10

*CALIS (Computer Assisted Language Instruction System) is a series of different programs designed specifically for those working in a variety of foreign language instructional environments. CALIS is sensitive to foreign language teacher needs; in fact, CALIS was developed at Duke University by a team of language teachers. CALIS can be operated in conjunction with interactive audio and video, and can be ordered in several different languages. CALIS is thoroughly documented; the authors make only the initial assumption that a user is comfortable with an IBM-standard computer. The Author program has been formulated by language specialists whose goal is to make the creation of foreign language software a process which does not require sophisticated consultation with computer programmers.

Sample CALIS statements:

@	default setting
#	"label" or name of task
!	directions to the student
/	"text" displayed at top of screen
?	question presented to student
+	one or more correct answers
-	one or more anticipated "incorrect" answers complete with feedback
&	continuation of a feedback statement

System Requirements:

IBM PC, PS/2 or true compatible (256 RAM); 1 or 2 disk drives; monochrome monitor is recommended; an EGA (Enhanced Graphics Adaptor) or a VGA (Video Graphics Array) is required in order to operate special character sets. PC DOS 3.0 or higher is recommended. A word processor with a "clean ASCII" text is required to modify extant CALIS lessons. One such word processor is PC-Write which is also, incidentally, a shareware program (offering unlimited distribution). Further options include a digital audio, audio cassette, video cassette, and videodisc.

Foreign Language Compatibility:

Versions of CALIS are available in the following languages:

English, German, French, Spanish, Portuguese, Russian, Greek and Amharic.

Product Index Code Number: 19

Linguist's Software
106R Highland St
South Hamilton, MA 01982

Tel: 617 468-3037

LaserTransliterator
MacPhonetics

Price: $99.95 (LaserTransliterator)
$79.95 (MacPhonetics)

*LaserTransliterator is a program featuring 50 overstrike accents and diacritics. The program offers automatic non-deleting backspacing for typing over letters or symbols. Transliteration symbols featured are for Hebrew, Arabic, Coptic, Greek (SBL system). Sets for 75 other languages are provided: European Roman, American Indian and African.

LaserTransliterator is not an authoring system, but certainly a useful utility in creating foreign language software for LaserWriter printing in MacWrite, Microsoft Word, etc.

*MacPhonetics is a transliteration software application featuring three fonts: IPA (International Phonetic Alphabet and all its diacritical marks), SIL (Summer Institute of Linguistics symbol set); and Mac Transliterator with 75 languages in one font. Overstrike keys with non-deleting backspacing allow insertion of accents, umlauts and other diacritics. All linguistic signs can be programmed to any letter (lower or upper case). High quality printing of Hebrew, Arabic, Coptic, Greek (SBL) and 75 complete character sets of other languages.

System Requirements:

512K or larger Macintosh; external disk drive.

LaserTransliterator is designed for LaserWriter printing.

Foreign Language Compatibility:

From the above descriptions, both tools are excellent for either foreign language courseware or intensive linguistic research.

Product Index Code Number: 20

Micro-Visual Products
Department 8899
7100 N. Mc Cormick Road
Chicago, IL 60645

Tel: 800 323-4338
312 673-3300

AVA (Audio Visual Author)

*AVA is an authoring system designed to combine a microcomputing authoring facility with video cassette or sound/slide projector options. Programming knowledge is not prerequisite since the AVA system provides on-screen instruction for authoring lessons. Lessons are authored in English. Text-editing functions correspond to those in word processing applications. Courseware can be generated with high resolution graphics, color, sound and various font styles.

Different types of branching are determined by the type of answer processing desired by the author. The product will accommodate four basic types of response: multiple anticipated correct or incorrect answers; unanticipated answers; hint or failure messages. The AVA program has a recordkeeping function, and allows an author to register and manage individual student progress.

Types of Exercises:

Templates include M/C; T/F; F/B; dialogue; matching; animation; simulation.

System requirements:

Bell & Howell or Apple II+ or IIe; DOS 3.3.

Foreign Language Compatibility:

This product offers excellent authoring options for ESL educators, but unfortunately cannot provide custom foreign language environments.

Product Index Code Number: 21

National School Products
101 East Broadway
Maryville, TN 37801-2498

Tel: 800 251-9124
800 223-2445

Vocabulary Drill

Price: $29.95

*Vocabulary Drill is a program featuring both a set of vocabulary drill exercises in French, German and Spanish, and a set of practice files allowing an instructor to program extra translation drills.

Sample Menu:

List File

1. Vegetables	6. Classroom
2. Kitchen	7. Animals
3. Colors	8. Family
4. Numbers	9. Fruit
5. The Body	10. Beverages

What list do you wish to practice?

System requirements:

Apple II, II+, IIc, IIe; 64K.

Foreign Language Compatibility:

Special accommodation for French, German and Spanish vocabulary.

Product Index Code Number: 22

Projected Learning Programs
P.O. Box 2002
Chico, CA 95927

Tel: 916 893-4223
214 641-8989

Alexander

Price: $245.00

*Alexander is not an authoring tool as such but a multilingual word processor. This means that users do not work within set templates, but create their own lessons as they would on any other word processor, with, of course, the advantage of so many characters from so many languages. Alexander offers what very few other programs can--an extensive variety of characters and symbols. Extended text characters are provided for the following languages: Western and East European Languages, Native American and African Languages, Cyrillic, Greek and Hebrew alphabets. Also featured are graphics and science characters, chemistry notations, special electronics and musical composition characters.

Other word processing utilities include file transfer by telephone, and auto-conversion from text to typeset.

System requirements:

IBM PC, XT, AT, JR; 192K. Color graphics card required.

Foreign Language Compatibility:

Special characters provided for all languages mentioned above. Useful for both linguistic research and foreign language lessons.

Product Index Code Number: 23

Projected Learning Programs
P.O. Box 2002
Chico, CA 95927

Tel: 916 893-4223
214 641-8989

FLCC (Foreign Language Courseware Creator)

Price: $195.00

*FLCC (Foreign Language Courseware Creator) is an authoring program enabling lessons to be created with additional color text and high resolution graphics. Features include: animation; simultaneous operation of two languages; a glossary option; automatic branching; automatic reinforcement; multiple explanations. The recordkeeping function is standard.

System requirements:

Apple II, IIe, II+, IIc; 48K; 2 disk drives.

Foreign Language Compatibility:

Special characters provided for French, Spanish, German, Russian, Hebrew, Japanese, and 13 other languages.

Product Index Code Number: 24

Qualitas Trading Co.
6853 Buckingham
Berkeley, CA 96705

Tel: 415 547-1520

E/G Bridge; JAM
(Japanese
Attachment to
Macintosh)
E/G Word

Price: $249.00 (E/G Bridge)
$149.00 (JAM)
$399.00 (E/G Word)

•E/G Bridge and JAM are both Japanese language interfaces for Macintosh computers. The program enables a user to input in Japanese when operating Macintosh software applications. This utility supplies a a kana-kanji character conversion (there are approximately 3000 kanji characters). Also included are a 25,000 word dictionary; two input modes; romaji (alphabet) and kana syllables; a gaiji facility for enabling custom or non-standard characters to be created; diverse font styles. JAM has the same input style and a 15,000 word dictionary.

•E/G Word is a Japanese word processing application. It boasts an impressive 35,000 word kanji (Chinese) dictionary, and a 3,000 kanji character set. Featured items comprise a sentence-length kana-kanji character converter; two input modes; alphabetic (romaji) mode; kana input; straight lines for grid-type charts; different font sizes; compatible with MacPaint; English word processing; on-screen page layout; softkeyboard for customizing characters or symbols.

System requirements:

All programs are intended for operation with a 512K (or larger) Macintosh.

Foreign Language Compatibility:

These three programs are specifically designed for users/authors whose input needs to be either in Japanese or English.

Product Index Code Number: 25

Paul Rapoport
7, Craddock Court
Ancaster
Ontario L9G 3Z5
Canada

The International Fonts

Price: $21.75

*The International Fonts is a multilingual font system which supports many different word processing applications. This program offers an impressive spectrum of language fonts. There are four principal fonts: International Roman, Greek, Cyrillic and Phonetic. Typing is possible in all Western languages. There are sixty-eight superimposable diacritical signs. The Greek font supports classical and modern languages; the Cyrillic, over twelve languages including prerevolutionary Russian. The Phonetic font houses the International Phonetic Alphabet. This program is not an authoring tool by definition, but can be used with other Macintosh authoring programs. The International Fonts is a valuable instrument for multilingual word processing.

System requirements:

Macintosh 512K or larger; designed for ImageWriter printing.

Available for 12 and 24 point sizes.

Foreign Language Compatibility:

The International Fonts is an application whose design is expressly focused on multilingual computing.

Product Index Code Number: 26

Raptor Systems
324 South Main Street
Suite #1
Stillwater, MN 55082

Tel: 612 430-2980

The Author
The Author Plus

Price: $295.00 (The Author)
$495.00 (The Author Plus)

*The Author is an authoring system allowing novices to create courseware tutorials. Menu-driven, software is created with ease. The Author's main attractions include easy-to-follow instructions, immediate reinforcement, and automatic branching to additional or remedial instruction depending on the student's responses. Student recordkeeping is standard; licensed users can distribute unlimited copies of their lessons. Thorough documentation makes both The Author and The Author Plus convenient software tools. *The Author Plus offers the same features as The Author and surpasses the latter only in its more extensive graphics possibilities. Computer lesson distribution rights do not have to be purchased with this program.

Types of exercises:

M/C; F/B; T/F; sequencing.

System requirements:

IBM PC, XT, JR, Portable; Apple II, IIe, II+, IIc.

Color or monochrome 80-column display monitor; minimum of 64K required; PCDOS V1.1, V2.0, V2.1; one or two drives; printer.

Language required BASIC, Cartridge BASIC for PCjr.

Foreign Language Compatibility:

No special accommodation for foreign languages. Otherwise excellent authoring possibilities for ESL courseware.

Product Index Code Number: 27

Texas Software
One Energy Square
Suite 660
Dallas, TX 75206

Tel: 214 369-0795

CALL (Computer Aided Language Learning)

Price: $400.00

*CALL (Computer Aided Language Learning) is an authoring language allowing novices to create courseware tutorials. Editing and grading capabilities.

System requirements:

IBM PC, XT. Color or monochrome 80-column display monitor; 128K;

PCDOS V1.1, V2.0, V2.1; 2 disk drives; printer.

Foreign Language Compatibility:

Call for advice about authoring possibilities for particular languages.

Product Index Code Number: 28

Unisource Software Corporation
23 East Street
Cambridge, MA 02141

Tel: 617 577-8383

FeiMa

Price: $545.00

*FeiMa is a Chinese word processor which requires no knowledge of English to operate. Icons and menus appear in Chinese. Disk operating functions (such as diskette initialization, searching a character, or printing a document) are conducted in Chinese. The user chooses among six input methods: selection of Chinese characters from a standard Chinese typewriter; search in dictionary for given character; selection on basis on number of "strokes" in character; selection of characters already stored in a character bank; text input in English; combination of character tone with standard character key for sound identification.

System requirements:

512K Macintosh or larger and an external disk drive are required in order to operate the program.

Foreign Language Compatibility:

The program is an indispensable tool for bilingual research or instruction in Chinese and English.

Product Index Code Number: 29

Xerox Corporation
Xerox Square
Rochester, NY 14644

*Xerox 6085 Professional Computer System
*Xerox 8010 Information System

Both systems are multilingual document processors offering integrated and sophisticated workstations for combining multilingual text and graphics. Both systems, it should be noted, are designated for operation on larger computer systems (the Xerox 6085 and 8010 are operated on Ethernet, a constituent of the Xerox Network System); they are not available for microcomputers.

Instruction can be prepared in a number of ways; the systems can be used for creating:

- training materials in a multinational business environment;
- courseware materials in a multilingual educational environment (ESL classes);
- multilingual engineering manuals or technical documents;
- multilingual project reports;
- pertinent legal information needed by international personnel in businesses or educational institutions.

Selection of the desired language's keyboard requires two keystrokes; graphic representations of characters assigned to each keyboard can be easily accessed; simultaneous window displays of different languages in one single document are possible. One of the most important attractions of such systems is their compatibility not only with national systems bearing the Xerox name, but also Xerox systems all over the world. Graphics options are numerous. The user customizes the appearance of any document by selecting the typestyle and page format. What is seen on the display corresponds to the printed version.

System Requirements:

See explanation above.
6085 and 8010 configurations with standard memory and minimum disk storage of 10 Mb or more. For the full range of fonts, an 80Mb server is necessary (42 Mb for limited font selection). Extended languages require a 6085 configuration of 1.1 Mb and 40 Mb disk storage capacity; or a 8010 configuration of 1.2 Mb memory and 42 Mb disk storage.

Foreign Language Compatibility:

At present, over 20 languages (with Viewpoint software), 30 languages (with Star) can be processed.

Xerox 6085 and 8010 standard languages:
Afrikaans, Albanian, Bulgarian, Danish, Dutch, English, Estonian, Finnish, French, French Canadian, German, Greek, Indonesian, Italian, Malay, Norwegian, Portuguese, Russian, Spanish, Swahili, Swedish, Tagalog.

Using floating accents:
Czechoslovakian, Hungarian, Latvian, Lithuanian, Romanian, Serbo-Croatian, Slovak, Slovene.

Extended Language Option:
Phonetic conversion software is available for Japanese (Japanese Industrial Standard level 1 and 2 Kanji character set, Hiragana and Katakana), and Chinese.

Product Index Code Number: 30

Software Directories and Projects

BYU CALI Research (Computer Assisted Language Instruction)
CALI, Inc. (Computer Assisted Learning and Instruction)
CALICO (Computer Assisted Language Learning and Instruction)
CATS (Courseware Authoring Template Systems)

3078 JKHB Brigham Young University
Provo, UT 84602

Tel: 801 378-2349

Catalog of Microcomputer-Based Packages

CONDUIT
University of Iowa
P.O. Box 388
Iowa City, IA 52244

Computers in Writing and Language Instruction

August 1--2 (1988 Conference); 3-4-5 (1988 Workshops)

The conference will host research in both composition and language instruction. Papers will focus on the latest objectives in language training and computer aided instruction.

For more information:

Thomas J. Pollock
Center for Professional Development
19 School of Business and Economics
10 University Drive
Duluth, MN 55812

Tel: 218 726-6142

Classroom Computer Learning Directory of Educational Computing Resources

5615 West Cermak Road
Cicero, IL 52244

Computer Clearing House Project

German Department
219 Folwell Hall
University of Minnesota
Minneapolis, MN 55455

DUCALL (Duke University Computer Assisted Language Learning Project)

Humanities Computing Faculty
104 Languages Building
Duke University
Durham, NC 27706

IBM Personal Computer Software Directory

Electronic Communications, Inc.
1311 Executive Center Drive
Suite 220
Tallahassee, FL 32301

MLA (Modern Language Association) Educational Software Evaluation Project)

All software may be submitted for review; however, in the first phase of this pilot project, only IBM PC (including compatible hardware) intended software is under revision by the Advisory Committee. Among strongly encouraged submissions are foreign language instructional software applications. According to the official announcement issued by the MLA:

> The MLA Advisory Committee on Educational Software, consisting of scholars with wide knowledge of the educational applications of computer technology, will oversee the project, establish review procedures and criteria, evaluate software, and recommend software for distribution.

For more information:

Software Evaluation Project
Modern Language Association
10 Astor Place
New York, NY 10003-6981

Survey Report on Identified Microcomputer Courseware for Foreign Language Instruction

Center for Educational Experimentation, Development and Evaluation
College of Education
University of Iowa
Iowa City, IA 52242

Selected Microcomputer Software

Opportunities for Learning, Inc.
8950 Lurline Avenue, Department 26c
Chatsworth, CA 91311

Product Index

This index provides an alphabetic listing of products included in the product registry. Each product entry is accompanied by a number code which corresponds to the "Product Index Code Number" given to each product listed in the registry. Products are otherwise listed under their contact addresses.

	Product Index Code #
A	
ADR/ADROIT	2
Alexander	23
AlKaatib	10
Ambassador	13
Apple SuperPILOT	1
Author	27
Author Plus	27
AVA (Audio Visual Author)	21
B	
BIPACS-CALL (Computer Aided Language Learning)	4
BIPACS-CALL (Express Trainer Authoring Program)	4
C	
Cases 2 (Multi-discipline Problem Solver)	9
CALIS	19
CALL (Computer Aided Language Learning)	28
Color EnBasic	7
D	
DASHER	11
DASHER Authoring System	11
E	
E/G Bridge	25
E/G Word	25
F	
FeiMa	29
FLCC (Foreign Language Courseware Creator)	24

G

Gutenberg 14

I

International Fonts 26

L

LaserTransliterator 20
Linguist 15

M

MacAuthor 12
MacPhonetics 20
Mentor/MacVideo 12
Multi-lingual Language Teacher 3
Multiple Choice Tester 9
Multi-discipline Problem Solver (Cases 2) 9

P

Passport 16
Private Tutor System 8
Prompt 17

Q

Questionmaster 18

T

Teaching Assistant 3
Test Generator 9
Type-Writer 5

V

Vocabulary Drill 22
VOCAL 6

X

Xerox 6085 Professional Computer System 30
Xerox 8010 Information System 30

Language & Font Index

KEY

Each language/alphabet entry is accompanied by a number code which corresponds to the "Product Index Code Number," given to each product featured in the registry.

Language/font	Product Index Code #
A	
African:	20 23
Afrikaans:	30
Albanian:	30
American Indian:	20
Amharic:	19
Arabic:	10 19
B	
Bulgarian:	30
C	
Chinese:	25 29 30
Coptic Alphabet:	20
Cyrillic Alphabet (see Russian):	7 23 26
Czechoslovakian:	30
D	
Danish:	5 15 16 24 30
Dutch:	15 16 24 30
E	
East European (comprehensive):	23
English/ESL:	4 9 13 15 16 17 18 21 24 27 30
Esperanto:	15 16 24
Estonian:	30
F	
Finnish:	5 30
FONTRIX (IBM Font Matrix Program):	2
French:	1 3 4 5 11 13 14 15 16 17 18 19 22 24 30
French Canadian:	30

G

Gaiji (see Japanese): 25
German: 1 5 11 13 14 15 16 17 18 19 22 24 30
Germanic Languages (see German): 6 20 22 26
Greek Alphabet: 1 7 23 26 30
Greek: 15 16 19 24
Greek (SBL): 20

H

Hawaiian: 5
Hebrew Alphabet: 15 16 23 24
Hiragana: 15 16 24 30
Hungarian: 5 13 30

I

Icelandic: 15 16 24
Indonesian: 30
International Fonts 12 15 26
International Phonetic Alphabet (IPA): 15 16 24 20 26
Italian: 1 5 13 15 16 17 24 30

J

Japanese: 15 16 24 25 30
Japanese Industrial Alphabet (JIA): 30

K

Kana-kanji (see Chinese and Japanese): 25
Kanji characters (see Chinese and Japanese): 25 30
Katakana: 1 15 16 24 30
Konjoval: 6

L

Latin: 17
Latvian: 30
Lithuanian: 30

M

Malay: 30

N

Norwegian: 15 16 24 30
Native American: 23

P

Persian: 10
Polish: 15 16 24
Prerevolutionary Russian: 26
Portuguese: 15 16 19 24 30

R

Romaji (see Japanese): 25
Romance Languages: 6 7 20 23 26
(see French, Spanish, etc.)
Romanian: 30
Romanized Alphabet: 4 26
Russian: 15 16 19 24 30

S

Serbo-Croatian: 30
Slovak: 30
Slovene: 30
Spanish: 1 3 4 5 11 13 14 15 16 17 18 19 22 24 30
Summer Institute of Linguistics (SIL): 20
Swahili: 30
Swedish: 1 15 16 24 30

T

Tagalog: 30
Tchao: 6
Tchou: 6

U

Uncommonly Taught Languages: 6 15 16

W

Western: 6 21 26 30

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Afterword

It is hoped that the information presented above can assist educators of foreign languages in many different ways. This guide should, however, be considered as a ongoing process rather than a finished endeavor. Part of the author's intention is to encourage feedback in the form of corrections, advice and criticism. There are no doubt many oversights, inconsistencies and omissions in a project such as this---all unintentional. Any apparently blatant deficiencies are not due to negligence or immodesty; rather to the relative difficulties involved in successfully locating appropriate computer applications in today's software jungle. Below is a list of Authoring packages that I became aware of too late to include in the Product Registry

Course of Action
Authorware Inc. 8400 Normandale Lake Blvd, Suite 1050. Bloomington, MN 55437
Tel: (612) 921-8555
Price: $695
Apple Macintosh

MacLang
Kinko's Academic Courseware Exchange
Price: $30
Apple Macintosh

PROPI
ASYS Computer Services, 104 Viewcrest, Bellingham, WA 98225
Tel: (206) 734-2553
Price: $2,600; (For educational institutions, $1,260)
IBM , Requires 640K

Quest
Allen Communications
140 Lakeside Plaza II, 5225 Wiley Post Way, Salt Lake City, UT 84116
Tel: (801) 537-7800
Price: $1295
IBM

TenCORE
Computer Teaching Corporation
1713 S. Neil, Champaign, IL 61820
Tel: (217) 352-6363
Price: $2000

Those suggesting further amendments are strongly invited to contact the author directly in order that any necessary changes take place accordingly and at the earliest available opportunity. In appreciation:

Sandra L. Hampson
Department of Romance Studies
Cornell University
Ithaca, New York 14853

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Athelstan Booklets: Series on *CALL Practice and Methodology*

( ) *A Guide to Courseware Authoring Options in ESL/FL Instruction* Sandra Hampson (Booklet, 60pp.) @ $4.75 (£3.25) _____

( ) *Computers and ESL in Higher Education* Michael Barlow (Booklet, 20pp.) @ $2.25 (£1.50) _____

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